Claims

1. A radio communication method for a radio communication system, which is composed of a plurality of radio communication devices in such a manner that radio communication devices other than a given radio communication device exist within the communication area of the given radio communication device, wherein

a time slot is assigned to the given radio communication device periodically so that it can access a wireless medium in the time slot at higher priority than the other radio communication devices.

2. The method according to claim 1 wherein a different time slot is assigned to each radio communication device.

3. The method according to claim 1 or 2 wherein communication time on the wireless medium is divided into time slots of equal length, and the divided time slots are assigned to respective radio communication devices.

4. The method according to claim 1 wherein the number of time-slot divisions is decided based on the number of

other radio communication devices existing in the communication area.

5. The method according to claim 4 wherein the given radio communication device detects the number of other radio communication devices existing in the communication area, and sends information on the number of other radio communication devices to the other radio communication devices.

6. The method according to claim 5 wherein the given radio communication device receives information related to the number of other radio communication devices from the other radio communication devices, and decides on the number of time-slot divisions based on the number of other radio communication devices existing in the communication area and the number of other radio communication devices existing in the communication area.

7. The method according to claim 4 wherein the other radio communication devices are specific radio communication devices.

8. The method according to claim 1 wherein the given radio communication device sends information for

identifying the assigned time slot so that the other radio communication devices can select, based on the information, respective time slots different from the time slot assigned to the given radio communication device.

9. The method according to claim 1 wherein the given radio communication device accesses the wireless medium in the assigned time slot using a waiting time shorter than those for the other radio communication devices.

10. The method according to claim 9 wherein the given radio communication device accesses the wireless medium in time slots other than the assigned time slot using a waiting time longer than those for the other radio communication devices.

11. The method according to claim 1 wherein a common periodic length is set among the radio communication devices so that the common period will be divided into the time slots.

12. The method according to claim 11 wherein the common period is synchronized among the radio communication devices.

13. The method according to claim 1 wherein when an overlap occurs among time slots assigned to the radio communication devices, different time slots are reassigned to all but the given radio communication device so that only the given radio communication device will be assigned the time slot.

14. The method according to claim 1 wherein when the given radio communication device is shut down, the time slots are reassigned so that the other radio communication devices will have chances of using the time slot assigned to the given radio communication device.

15. A radio communication method implemented by a given radio communication device, wherein the given radio communication device detects the number of other radio communication devices existing within the communication area of the given radio communication device, and sends information on the number of other radio communication devices to the other radio communication devices.

16. A radio communication method implemented by a

given radio communication device, wherein the given radio communication device receives, from other radio communication devices, information on the number of radio communication devices existing within the communication areas of the other radio communication devices.

17. A radio communication device in whose communication area any other radio communication device may exist, wherein said radio communication device is constructed in a manner to detect the number of other radio communication devices existing in the communication area and send information on the number of other radio communication devices to the other radio communication devices.

18. A radio communication device in whose communication area any other radio communication device may exist, wherein said radio communication device is constructed in a manner to receive, from the other radio communication devices, information on the number of radio communication devices existing in the communication areas of the other radio communication devices.

19. A radio communication device in whose communication area any other radio communication device may exist, wherein said radio communication device is constructed in a manner to detect the number of other radio communication devices existing in the communication area, receive from the other radio communication devices information on the number of radio communication devices existing in the communication areas of the other radio communication devices, and create parameters for dividing communication time on a wireless medium into time slots of equal length based on the number of radio communication devices detected and the number of radio communication devices received from the other radio communication devices.

20. The device according to claim 19, wherein said device is constructed in a manner to select one of the time slots and use the selected one as the time slot in which said device can access the wireless medium at higher priority than the other radio communication devices.

21. The device according to claim 20, wherein said device is constructed in a manner to send the other radio communication devices information for identifying

the selected time slot.

22. The device according to claim 21, wherein said device is constructed in a manner to receive, from the other radio communication devices, information for identifying time slots selected by the other radio communication devices.

23. The device according to claim 22, wherein said device is constructed in such a manner that when the selected time slot overlaps with a time slot selected by any of the other radio communication devices, it refers to predetermined conditions to determine whether to reselect the time slot.

24. The device according to claim 23, wherein said device is constructed in such a manner that when reselection was performed, it sends the other radio communication devices information for identifying the reselected time slot.

25. The device according to claim 20, wherein said device is constructed in a manner to set the length and start timing of time cycle and divide the time cycle by the time slot.

26. The device according to claim 25, wherein said device is constructed in a manner to send the other radio communication devices information on the length and start timing of the time cycle.

27. The device according to claim 26, wherein said device is constructed in a manner to receive, from the other radio communication devices, information on the length and start timing of the time cycle.

28. The device according to claim 27, wherein said device is constructed in a manner to reconcile the length and start timing of the time cycle with those set by the other radio communication devices.

29. The device according to claim 20, wherein said device is constructed in a manner to access the wireless medium in the selected time slot using a waiting time shorter than those for the other radio communication devices.

30. The device according to claim 29, wherein said device is constructed in a manner to access the wireless medium in time slots other than the selected time slot

using a waiting time longer than those for the other radio communication devices.